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# Electrical & Electronics Abstracts

Science Abstracts Series B
January-June 1992

Subject Index

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# SIX-MONTHLY INDEXES TO ELECTRICAL & ELECTRONICS ABSTRACTS

Twice a year as part of their subscription to Electrical & Electronics Abstracts, subscribers receive cumulative indexes for the periods January-June and July-December. Each index is in two parts – a Subject Index, and an Author Index which comprises personal and corporate author indexes, and indexes to conferences, book titles, and bibliographies. The List of Journals abstracted by INSPEC is also included with the July-December issue of the Author Index, while the supplement to that List is included with the January-June issue. Cumulative indexes for earlier years are also available: for details please see the inside back cover.

## Subject index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following categories: property, phenomena, substance or named objects, instruments, device, theory, method, process, application, event.

2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.

3. If you do not find the subject heading you first chose, try a more general heading.

4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal, e.g. 12345 refers to abstract number 12345 for the period covered by the Index.
The language of the article, if it is not in English, is also indicated, e.g. CCD imaging, multilayer and interline transfer develop (*Japanese*) 40162.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usually ignored (e.g. α-brass, 5-sulphosalicylic, 31 Cygni, n-Ge are sorted under brass, sulphosalicylic, Cygni, Ge respectively).

There are three main Keyword lists: alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

For document on, say, 'photoemission of germanium' at least two access points 'photoemission' and 'germanium' are provided. Under the heading 'photoemission' the Keyword will be 'Ge' and under 'germanium' the Keyword will be 'photoemission'.

In a case like this, it is advisable and quicker to use the heading 'photoemission' and go straight to the chemical symbol list for 'Ge'.

Intermetallic compounds are indexed under the appropriate alloy headings. The chemical formula is used as Keyword. However, it is important to realise in searching the chemical symbol list that, at present, alloys and intermetallic compounds are sorted separately. For example FeCo is sorted at the end of the Fe-list e.g. Fe-Al,... Fe-Co,... Fe-Si,... Fe-Si-B,... FeCo,... FeSi and so on in this order.

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# Electrical & Electronics Abstracts

**Science Abstracts Series B**
January-June 1992

# Subject Index

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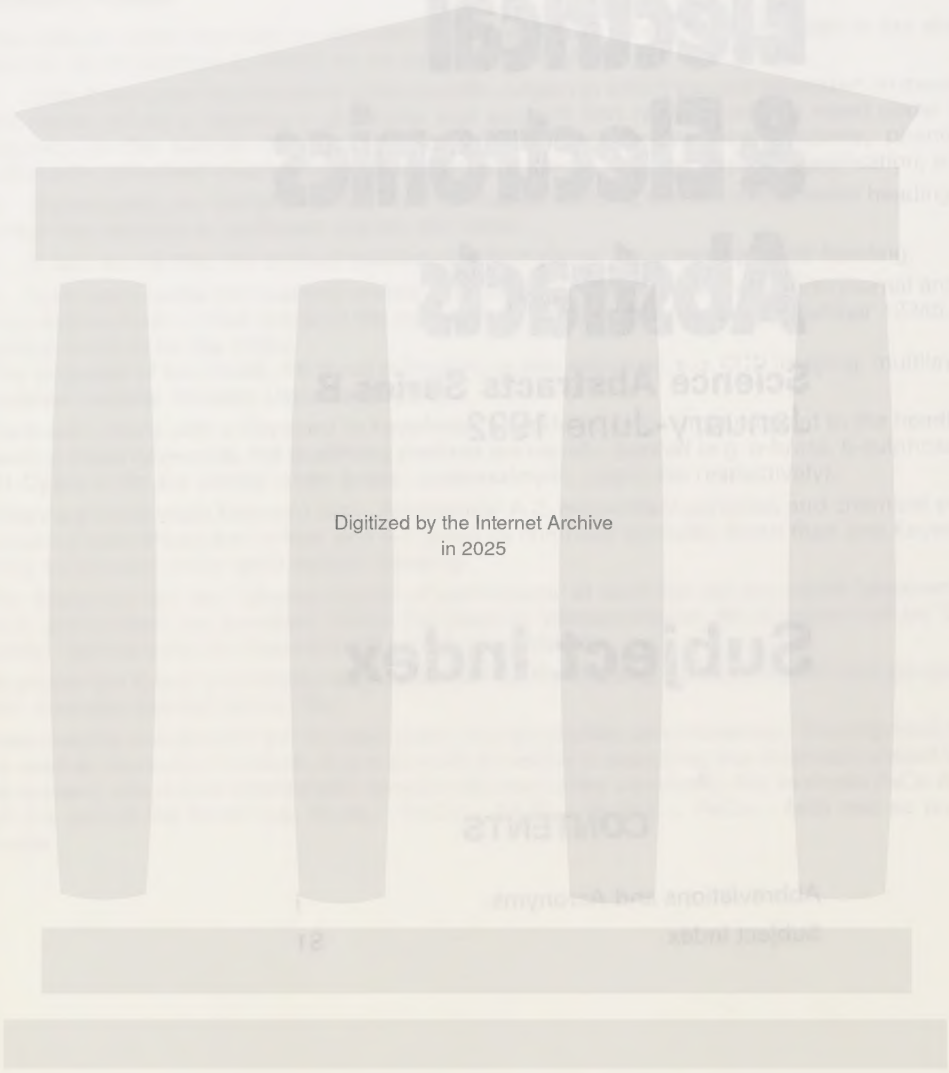

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# Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes. Individual terms should be readily understood in the context of the subject headings. **Inorganic substances** are usually given by their chemical formulae. Iron, aluminium and gallium garnets appear in the formula lists as MIG, MAG and MGG (where M is metal element, e.g. YIG and YAG); $(Pb,La)(Zr,Ti)O_3$ and $Pb(Zr,Ti)O_3$ appear as PLZT and PZT. **Organic substances** including **liquid crystals** are not given as formulae but common abbreviations are used.

| | |
|---|---|
| 1D | one-dimensional |
| 2D | two-dimensional |
| 3D | three-dimensional |
| A/D | analogue-to-digital |
| ABB | Asea Brown Boveri |
| ABS resin | acrylonitrile-butadiene-styrene resin |
| AC | alternating current |
| ACD | automatic call distribution |
| ACEL | AC electroluminescent |
| ACRT | accelerated crucible rotation technique |
| ACSR | aluminium conductor steel reinforced |
| ACV | air cushion vehicle |
| ADC | analogue-to-digital conversion |
| ADM | adaptive delta modulation |
| ADP | administrative data processing |
| ADPCM | adaptive differential PCM |
| ADS | automatic depressurisation system |
| AE | acoustic emission |
| AES | Auger electron spectra (-oscopy) |
| AF | audio frequency |
| AFBC | atmospheric fluidised bed combustion |
| AFC | automatic frequency control |
| AFL | abstract family of languages |
| AFM | atomic force microscopy |
| AFMR | antiferromagnetic resonance |
| AFR | away from reactor (spent fuel storage) |
| AGB | asymptotic giant branch |
| AGC | automatic gain control |
| AGN | active galactic nucleus (nuclei) |
| AGR | advanced gas-cooled reactor |
| AGS | alternating gradient synchrotron |
| AGV | automatic guided vehicle |
| AI | artificial intelligence |
| ALARA | as low as reasonably achievable |
| ALE | atomic layer epitaxy |
| ALU | arithmetic logic unit |
| ALV | autonomous land vehicle |
| ALWR | advanced light water reactor |
| AM | air mass number *or* amplitude modulation |
| AMPTE | Active Magnetospheric Particle Tracer Explorers |
| AMR | automatic meter reading |
| AMS | accelerator mass spectroscopy |
| ANA | automatic network analyser |
| ANOVA | analysis of variance |
| ANS | Advanced Neutron Source |
| ANSI | American National Standards Institute |
| AOI | automatic optical inspection |
| APACHE | Accelerator for Physics and Chemistry of Heavy Elements |
| APC | adaptive predictive coding |
| APCM | adaptive pulse code modulation |
| APCVD | atmospheric pressure CVD |
| APD | avalanche photodiode |
| APFIM | atom probe field ion microscopy |
| APK | amplitude phase keying |
| APS | appearance potential spectra (-oscopy) |
| APW | augmented plane wave |
| APWR | advanced pressurised water reactor |
| ARMA | autoregressive moving average |
| ARMAX | autoregressive moving average exogenous |
| ARPA | Advanced Research Projects Agency |
| ARPES | angle resolved photoemission spectra (-oscopy) |
| ARQ | automatic repeat request |
| ARUPS | angular resolved UPS |
| ASCII | American standard code for information interchange |
| ASIC | application specific integrated circuit |
| ASK | amplitude shift keying |
| AT&T | American Telephone & Telegraph |
| ATC | air traffic control |
| ATCS | Advanced Train Control System |
| ATE | automatic test equipment |
| ATF | Advanced Toroidal Facility |
| ATM | asynchronous transfer mode *or* automatic teller machine *or* Axilrod-Teller-Moto |
| ATMS | assumption-based truth maintenance system |
| ATR | attenuated total reflection *or* automatic target recognition |
| ATV | advanced television |
| ATWS | anticipated transients without scram |
| AVC | automatic volume control |
| AVHRR | advanced very high resolution radiometer |
| AWGN | additive white Gaussian noise |
| B-ISDN | broadband ISDN |
| BAER | brainstem auditory evoked response |
| BARITT | barrier injection transit time |
| BAW | bulk acoustic wave |
| BBC | British Broadcasting Corporation |
| BBD | bucket-brigade device |
| BBGKY | Bogoliubov-Born-Green-Kirkwood-Yvon |
| BCC | body centred cubic |
| BCD | binary-coded decimal |
| BCDMOS | bipolar-CMOS-DMOS |
| BCH | Bose-Chadhuri-Hocquenghem |
| BCS | Bardeen-Cooper-Schrieffer |
| BCT | body centred tetragonal |
| BEBC | Big European Bubble Chamber |

| | |
|---|---|
| BEDT-TTF | bis(ethylenedithio)-tetrathiafulvalene (-inium) |
| BEM | boundary element method |
| BEPC | Beijing Electron Positron Collider |
| BER | bit error rate |
| BFL | buffered FET logic |
| BFO | beat-frequency oscillator |
| BH | buried heterostructure |
| BIBO | bounded input bounded output |
| BiCMOS | bipolar CMOS |
| BiFET | bipolar field effect transistor |
| BIL | buried injection logic |
| BiMOS | bipolar metal-oxide-semiconductor |
| BIS | bremsstrahlung isochromat spectroscopy |
| BISDN | broadband ISDN |
| BIST | built in self test |
| BIT | built in test |
| BOC | Bell Operating Company |
| BOD | bistable optical device |
| BPSK | binary phase shift keying |
| BRET | Breeder Reprocessing Engineering Test |
| BSI | British Standards Institution |
| BTSC | Broadcast Television Systems Committee |
| Btx | Bildschirmtext |
| BVP | boundary value problem |
| BWIP | Basalt Waste Isolation Project |
| BWO | backward wave oscillator |
| BWR | boiling water reactor |
| BWT | backward wave tube |
| C-V | capacitance-voltage |
| $C^2$ | command and control |
| $C^3$ | cleaved coupled cavity *or* command control communications |
| $C^3I$ | command control communications and intelligence |
| $C^3L$ | complementary constant current logic |
| $C^4$ | command control communications and computers |
| CAA | computer aided analysis |
| CAAB/AM | companded single sideband amplitude modulation |
| CAD | computer aided design |
| CADAT | computer aided design and testing |
| CADD | computer aided draughting and design |
| CAE | computer aided engineering |
| CAI | common air interface *or* computer assisted instruction |
| CAL | computer aided learning |
| CAM | computer aided manufacturing *or* content addressable memory |
| CAMAC | computer automated measurement and control |
| CANDU | Canadian deuterium uranium |
| CAPP | computer aided process (production) planning |
| CAR | computer aided retrieval |
| CARS | coherent anti-Stokes Raman scattering (spectra) |
| CASE | computer aided software engineering |
| CAT | computer assisted tomography or computerised axial tomography |
| CATT | controlled avalanche transit transistor |
| CATV | cable television *or* community antenna television |
| CAV | constant angular velocity |
| CB | citizens band |
| CBE | chemical beam epitaxy |
| CBED | convergent beam electron diffraction |
| CBI | computer based instruction |
| CBOOA | cyanobenzylidene octyloxyaniline |
| CBT | computer based training |
| CCBA | coupled channel Born approximation |
| CCCS | current controlled current source |
| CCD | charge-coupled device |
| CCFL | counter current flow limiting (LOCA phenomenon) |
| CCII | second generation current conveyor |
| CCIR | International Radio Consultative Committee |
| CCITT | International Telephone & Telegraph Consultative Committee |
| CCL | capacitor coupled logic |
| CCS | common channel signalling *or* computer communications software |
| CCTF | Cylindrical Core Test Facility |
| CCTR | Culham Conceptual Tokamak Reactor |
| CCTV | closed circuit television |
| CCVS | current controlled voltage source |
| CD | compact disc *or* critical dimension |
| CD-I | compact disc - interactive |
| CD-ROM | compact disc ROM |
| CD-V | compact disc - video |
| CDFR | Commercial Demonstration Fast Reactor |
| CDI | collector diffusion isolation |
| CDLC | cellular data link control |
| CDM | code division multiplexing |
| CDMA | code division multiple access |
| CDP | common depth point |
| CDW | charge-density wave |
| CECL | cascade-emitter coupled logic |
| CELP | code excited linear prediction |
| CEM | channel electron multiplier |
| CEPA | coupled electron pair approximation |
| CEPT | Conference of European Postal and Telecommunications |
| CERN | European Council for Nuclear Research |
| CESAR | CERN Electron Storage and Accumulation Ring |
| CESR | conduction electron spin resonance |
| CETI | contact with extraterrestrial intelligence |
| CFAR | constant false alarm rate |
| CFC | chlorofluorocarbon |
| CFG | context free grammar |
| CFL | context free language |
| CFSK | coherent frequency shift keying |
| CGA | Computer Graphics Adaptor |
| CGH | computer-generated holography (-gram) |
| CGTO | contracted Gaussian-type orbital |
| CHF | coupled Hartree-Fock |

| | |
|---|---|
| CHO | Chinese hamster ovary |
| CHP | combined heat and power |
| CI | configuration interaction |
| CID | charge injection device |
| CIDEP | chemically induced dynamical electron polarisation |
| CIDNP | chemically induced dynamical nuclear polarisation |
| CIM | computer integrated manufacture (-ing) *or* constituent interchange model |
| CIRC | cross-interleaved Reed-Solomon code |
| CISC | complex instruction set computer |
| CIT | Compact Ignition Tokamak |
| CLOS | command-to-line-of-sight |
| CLV | constant linear velocity |
| CMI | computer managed instruction |
| CML | current-mode logic |
| CMOS | complementary metal-oxide-semiconductor |
| CNC | computerised numerical control |
| CNDO | complete neglect of differential overlap |
| CNR | carrier to noise ratio |
| COB | chip-on-board |
| COG | chip-on-glass |
| COM | computer output to microform (fiche or film) |
| COMFET | conductivity-modulated field effect transistor |
| CORDIC | coordinate rotation digital computer |
| COVA | computer code validation |
| CP | charge, parity |
| CP-MAS | cross-polarisation MAS |
| CPA | coherent potential approximation *or* critical path analysis |
| CPC | compound parabolic concentrator |
| CPE | customer premises equipment |
| CPFSK | continuous phase FSK |
| CPM | continuous phase modulation *or* critical path method |
| CPSK | coherent phase shift keying |
| CPT | charge, parity, time |
| CPU | central processing unit |
| CPW | coplanar waveguide |
| CRBR | Clinch River Breeder Reactor Project |
| CRC | cyclic redundancy check |
| CRCW | concurrent read, concurrent write |
| CRDA | control rod drop accident |
| CREW | concurrent read, exclusive write |
| CRMA | cyclic reservation multiple access |
| CRNL | Chalk River Nuclear Laboratories |
| CRO | cathode ray oscilloscope |
| CRSR | coherent resonant Stokes rotation |
| CRT | cathode ray tube |
| CS | coupled states |
| CSCW | computer supported cooperative work |
| CSI | current source invertor |
| CSM | continuous slowing down models |
| CSMA | carrier sense multiple access |
| CSMA/CD | CSMA with collision detection |
| CSP | channel substrate planar *or* communicating sequential processes *or* constraint satisfaction problem |
| CSRS | coherent Stokes-Raman spectra (-oscopy) |
| CSSB/AM | companded single sideband amplitude modulation |
| CT | computerised tomography *or* current transformer |
| CTD | charge transfer device |
| CTE | coefficient of thermal expansion |
| CTL | complementary-transistor logic |
| CTR | controlled thermonuclear reactor |
| CVD | chemical vapour deposition |
| CVSDM | continuously variable slope delta modulation |
| CW | continuous wave |
| CZ | Czochralski |
| D/A | digital-to-analogue |
| DAC | digital-to-analogue conversion |
| DAD | digital audio disc |
| DAMA | demand assigned multiple access |
| DASD | direct access storage device |
| DAT | digital audio tape |
| DATAC | digital autonomous terminal access communication |
| DAW | dry active waste |
| DBMS | database management system |
| DBR | distributed Bragg reflector |
| DBS | direct broadcasting by satellite |
| DC | direct current |
| DC-PBH | double-channel PBH |
| DCEL | direct current electroluminescent |
| DCFL | direct-coupled FET logic |
| DCG | dichromated gelatin |
| DCLC | drift cyclotron loss cone (instability) |
| DCS | digital cross-connect system |
| DCT | discrete cosine transform |
| DCTL | direct-coupled transistor logic |
| DDC | direct digital control |
| DDL | diode-diode logic |
| DECENT | distribution of exact classical energy transfer |
| DECT | Digital European Cordless Telephone (Telecommunication) |
| DES | data encryption standard |
| DESIRE | diffusion enhanced silylating resist |
| DESY | Deutsches Electron Synchrotron |
| DF | Dirac-Fock |
| DFB | distributed feedback |
| DFE | decision feedback equaliser |
| DFT | discrete Fourier transform |
| DH | double heterostructure |
| DHF | Dirac-Hartree-Fock |
| DHT | discrete Hartley transform |
| DIAL | differential-absorption lidar |
| DIET | desorption induced by electronic transitions |
| DIL | dual-in-line |
| DIP | dual in-line package |
| DITE | Divertor in Torus Experiment |
| DLTS | deep level transient spectra (-oscopy) |
| DM | delta modulation |
| DMA | direct memory access |
| DMM | digital multimeter |

| | |
|---|---|
| DMOS | double-diffused metal-oxide-semiconductor |
| DMSO | dimethylsulphoxide |
| DNA | deoxyribonucleic acid *or* Digital Network Architecture |
| DNMR | double nuclear magnetic resonance |
| DNTS | digital data exchange network testing system |
| DOBAMBC | p-decyloxybenzylidene p'-amino 2-methyl butyl cinnamate |
| DoD | Department of Defense (USA) |
| DOE | Department of Energy (USA) |
| DOF | degree(s) of freedom |
| DOPSK | differential offset phase shift keying |
| DORIS | Doppel-Ring-Speicher |
| DOS | disc operating system |
| DOVETT | double velocity transit time |
| DP | data processing |
| DPCM | differential pulse code modulation |
| DPDA | deterministic pushdown automaton |
| DPPC | dipalmitoyl phosphatidyl chloride |
| DPPH | diphenylpicrylhydrazyl |
| DPSK | differential phase shift keying |
| DQPSK | differential quadrature PSK |
| DRAM | dynamic RAM |
| DRO | dielectric resonator oscillator |
| DS-SSMA | direct sequence SSMA |
| DSA | digital subtraction angiography |
| DSAM | Doppler shift attenuation method |
| DSB | double sideband |
| DSC | differential scanning calorimetry |
| DSI | digital speech interpolation |
| DSM | demand side management |
| DSO | digital storage oscilloscope |
| DSP | digital signal processor (-ing) |
| DSS | decision support system *or* digital subscriber signalling |
| DTA | differential thermal analysis |
| DTL | diode transistor logic |
| DTMF | dual tone multi-frequency |
| DTP | desktop publishing |
| DTPP | Demonstration Tokamak Power Plant |
| DTU | dual topological unitarisation |
| DV-Xα | discrete variational Xα method |
| DVI | digital video interactive |
| DVM | digital voltmeter |
| DWBA | distorted wave Born approximation |
| DWIA | distorted wave impulse approximation |
| DWPF | Defence Waste Processing Facility |
| | |
| E1,E2 | electric dipole, quadrupole |
| E2PROM | electrically erasable PROM |
| EAROM | electrically alterable ROM |
| EAS | extensive air shower |
| EAX | electronic automatic exchange |
| EB | exponential Born |
| EBBA | 4-ethoxybenzylidene-4n-butylaniline |
| EBIC | electron beam induced current(s) |
| EBR | experimental breeder reactor |
| EBT | Elmo Bumpy Torus |
| EBU | European Broadcasting Union |
| ECC | emergency core cooling *or* error correction code |
| ECCM | electronic counter-counter measures |
| ECCS | emergency core cooling system |
| ECELR | Epithermal Critical Experiment Laboratory Reactor |
| ECG | electrocardiography (-gram) |
| ECL | emitter coupled logic |
| ECM | electronic countermeasures |
| ECMWF | European Centre for Medium Range Weather Forecasts |
| ECoG | electrocortiography (-gram) |
| ECR | electron cyclotron resonance |
| ECRH | electron cyclotron resonance heating |
| EDA | ethylene diamine |
| EDAX | energy dispersive X-ray analysis |
| EDF | Electricite de France |
| EDI | electronic data interchange |
| EDIF | electronic data interchange format |
| EDP | electronic data processing |
| EDTA | ethylene diamine tetra-acetic acid |
| EDTV | extended definition TV |
| EDW | electron density wave |
| EDX | energy dispersive X-ray |
| EEG | electroencephalography (-gram) |
| EELS | electron energy loss spectra (-oscopy) |
| EEPLD | electrically erasable PLD |
| EEPROM | electrically erasable PROM |
| EFG | edge-defined film fed growth |
| EFL | emitter-follower logic *or* emitter function logic |
| EFM | extended Flygare method |
| EFT | electronic funds transfer |
| EGA | Enhanced Graphics Adaptor |
| EGG | electrogastrography (-gram) |
| EHD | electrohydrodynamics |
| EHDTV | enhanced high definition television |
| EHF | extremely high frequency |
| EHP | electron-hole potential method |
| EHT | extended Huckel theory *or* extra high tension |
| EHV | extra high voltage |
| EIRP | equivalent isotropically radiated power |
| EKG | electrokymography (-gram) |
| ELDOR | electron electron double resonance |
| ELF | extremely low frequency |
| ELO | epitaxial lateral overgrowth |
| EM | electromagnetic |
| EMC | electromagnetic compatibility *or* European Muon Collaboration |
| EMF | electromotive force |
| EMG | electromyography (-gram) |
| EMI | electromagnetic interference |
| EMP | electromagnetic pulse |
| EMS | energy management system |
| EMTP | electromagnetic transients program |
| ENDOR | electron nuclear double resonance |
| ENEL | Ente Nazionale per l'Energia Elettrica (Italian National Electric Energy Agency) |
| ENG | electronic news gathering |
| ENSO | El Nino - Southern Oscillation |
| EOF | end of file |
| EOG | electrooculography (-gram) |
| EOQ | economic order quantity |
| EOS | electrical overstress |
| EPA | Environmental Protection Agency (USA) |

| | |
|---|---|
| EPLD | electrically programmable logic device |
| EPMA | electron probe microanalysis |
| EPR | Einstein-Podolsky-Rosen *or* electron paramagnetic resonance *or* ethylene propylene rubber |
| EPRI | Electric Power Research Institute |
| EPROM | erasable PROM |
| ERBE | Earth Radiation Budget Experiment |
| ERG | electroretinography (-gram) |
| ES | expert system |
| ESA | European Space Agency |
| ESCA | electron spectroscopy for chemical analysis |
| ESCAR | Experimental Superconducting Accelerating Ring |
| ESD | electron stimulated desorption *or* electrostatic discharge |
| ESDIAD | electron stimulated desorption ion angular distributions |
| ESF | engineering safety features |
| ESM | electronic support measures |
| ESOC | European Space Operations Centre |
| ESP | electrostatic precipitators |
| ESPI | electronic speckle pattern interferometry |
| ESPRIT | estimation of signal parameters by rotational invariance techniques *or* European Strategic Programme for Research in Information Technology |
| ESR | electron spin resonance |
| ESS | electronic switching system |
| ETSI | European Telecommunications Standards Institute |
| ETV | enhanced TV |
| EUV | extreme ultraviolet |
| EW | electronic warfare |
| EX-OR | exclusive-OR (logic) |
| EXAFS | extended X-ray absorption fine structure |
| FAMOS | floating gate avalanche MOS |
| FBC | fluidised bed combustion |
| FBR | fast breeder reactor |
| FCC | face centred cubic *or* Federal Communications Commission (USA) |
| FCFS | first come first served |
| FCI | fuel-cladding interaction |
| FCT | field controlled thyristor |
| FDDI | fibre distributed data interface |
| FDM | frequency division multiplex(ing) |
| FDMA | frequency division multiple access |
| FDNC | frequency dependent negative conductance |
| FDNR | frequency dependent negative resistance |
| FEA | finite element analysis |
| FEC | forward error correction |
| FECL | feedback ECL |
| FED | Fusion Engineering Device (USA) |
| FEDC | Fusion Engineering Device Centre (USA) |
| FEL | free electron laser |
| FEM | field emission microscopy *or* finite element method |
| FER | Fusion Experimental Reactor (Japan) |
| FET | field effect transistor |
| FFHR | fusion-fission hybrid reactor |
| FFT | fast Fourier transform |
| FFTF | Fast Flux Test Facility |
| FGD | flue gas desulphurisation |
| FH-SSMA | frequency hopped SSMA |
| FHNC | Fermi hypernetted chain |
| FIB | focused ion beam |
| FIFO | first in, first out |
| FIM | field ion microscopy |
| FIMOS | floating gate ionisation injection metal-oxide-semiconductor |
| FIPOS | full isolation by porous oxidised silicon |
| FIR | far infrared *or* finite impulse response |
| FITL | fibre in the loop |
| FLIR | forward looking infra-red |
| FLOPS | floating point operation(s) per second |
| FM | frequency modulation |
| FMECA | failure modes effects and criticality analysis |
| FMIT | Fusion Materials Irradiation Test Facility |
| FMR | ferromagnetic resonance |
| FMS | flexible manufacturing system *or* flight management system |
| FOV | field-of-view |
| FPC | fusion power core |
| FPGA | field programmable gate array |
| FPLA | field programmable logic array |
| FPT | finite perturbation theory |
| FRED-FET | fast recovery epitaxial diode FET |
| FRMR | field reversed mirror reactor |
| FSDE | fission suppressed direct enrichment (breeder blanket) |
| FSGO | floating spherical Gaussian orbitals |
| FSK | frequency-shift keying |
| FTIR | Fourier transform infrared *or* frustrated total internal reflection |
| FTR | Fast Test Reactor |
| FTTC | fibre-to-the-curb |
| FTTH | fibre-to-the-home |
| FWHM | full width half maximum |
| GAMBIT | gate modulated bipolar transistor |
| GANIL | Grand Accelerateur National a Ions Lourds |
| GCC | gasification combined cycle |
| GCFR | gas-cooled fast breeder reactor |
| GCHWR | gas cooled heavy water moderated reactor |
| GCM | general circulation model *or* generator coordinate method |
| GCR | group code recording |
| GDR | giant dipole resonance |
| GEO | geostationary orbit |
| GETR | General Electric Test Reactor |
| GHF-NO-CI | generalised Hartree-Fock/natural orbital/configuration interactions |
| GIAO | gauge-invariant atomic orbitals |
| GIC | generalised immittance convertor *or* graphite intercalation compound |
| GIS | gas insulated system (substation or switchgear) *or* geographic information system |

| | |
|---|---|
| GITL | gas insulated transmission line |
| GKS | Graphical Kernel System |
| GMDH | group method of data handling |
| GMR | giant monopole resonance |
| GMSK | Gaussian filtered MSK |
| GO | Gaussian orbitals |
| GP | Guinier-Preston |
| GPED | gas phase electron diffraction |
| GPIB | general purpose interface bus |
| GPM | ground potential model |
| GPS | Global Positioning System |
| GQR | giant quadrupole resonance |
| GRIN | graded (gradient) refractive index |
| GSM | Groupe Speciale Mobile |
| GSMBE | gas source molecular beam epitaxy |
| GSPC | gas scintillation proportional chamber (counter) |
| GTD | geometrical theory of diffraction |
| GTHTGR | gas turbine HTGR |
| GTO | gate turn-off *or* Gaussian-type orbitals |
| GUI | graphical user interface |
| GUT | grand unified theory |
| GVB | generalised valence bond |
| HBT | heterojunction bipolar transistor *or* N-(p-hexyloxybenzylidene)-p-toluidene |
| HCDA | hypothetical core disruptive accident |
| HCI | human-computer interaction |
| HCMOS | high speed complementary MOS |
| HCP | hexagonal close packed |
| HDL | hardware description language |
| HDLC | high level data link control |
| HDMI | high-density multichip interconnect |
| HDPE | high density polyethylene |
| HDTV | high definition television |
| HEED | high energy electron diffraction |
| HeLa | Henrietta Lacks |
| HEMP | high altitude electromagnetic pulse |
| HEMT | high electron mobility transistor |
| HET | hot electron transistor |
| HEU | highly enriched uranium (93% $U^{235}$) |
| HEU/Th | highly enriched U/Th fuel |
| HEXFET | hexagonal MOSFET |
| HF | Hartree-Fock *or* high frequency |
| HFEF | Hot Fuel Examination Facility |
| HFET | heterojunction field effect transistor |
| HFIR | high flux isotope reactor |
| HFITR | High Field Ignition Test Reactor |
| HFS | Hartree-Fock-Slater *or* hyperfine structure |
| HGMS | high gradient magnetic separation |
| HIFET | heterointerface field effect transistor |
| HIGFET | heterostructure insulated gate FET |
| HIP | hot isostatic pressing |
| HIXE | heavy ion induced X-ray emission |
| HJBT | heterojunction bipolar transistor |
| HJFET | heterojunction field effect transistor |
| HLL | high level language |
| HLLW | high level liquid waste |
| HLW | high level waste |
| HMM | hidden Markov model |
| HMO | Huckel molecular orbitals |
| HMOS | high-performance metal-oxide-semiconductor |
| HMTSeF | hexamethylenetetraselenafulvalene (-inium) |
| HMTTF | hexamethyltetrathiofulvalene (-inium) |
| HOAB | heptyloxyazoxybenzene |
| HOE | holographic optical elements |
| HOMO | highest occupied molecular orbitals |
| HPCI | high pressure coolant injection |
| HPCS | high-pressure core sprays |
| HREELS | high resolution EELS |
| HREM | high resolution electron microscopy |
| HSLA | high strength low alloy (steel) |
| HT | high tension |
| HTGR | high temperature gas-cooled reactor |
| HTGR SC/C | HTGR steam cycle cogeneration |
| HTTR | High Temperature Engineering Test Reactor |
| HUD | head-up display |
| HV | high voltage |
| HVAC | heating, ventilation and air conditioning *or* high voltage alternating current |
| HVDC | high voltage direct current |
| HVEM | high voltage electron microscopy |
| HVIC | high voltage integrated circuit |
| HWLWR | heavy water moderated LWR |
| HWR | heavy water reactor |
| HZE | high Z and energy |
| HZP | Hot Zero Power |
| I-V | current-voltage |
| I/O | input/output |
| $I^2L$ | integrated injection logic |
| $I^3L$ | isoplanar $I^2L$ |
| IAEA | International Atomic Energy Agency |
| IAR | isobaric analogue resonance |
| IAS | isobaric analogue state |
| IBA | interacting boson approximation |
| IBCN | integrated broadband communication network |
| IBFA | interacting boson-fermion approximation |
| IBM | interacting boson model *or* International Business Machines |
| IBPBAC | isobutyl-4-(4'-phenylbenzylidene-amino) cinnamate |
| IC | integrated circuit |
| ICB | ionised cluster beam |
| ICDF | intermediate coupling Dirac-Fock |
| ICF | inertial confinement fusion |
| ICP | inductively coupled plasma |
| ICPP | Idaho Chemical Processing Plant |
| ICRF | ion cyclotron range of frequencies |
| ICRH | ion cyclotron resonance heating |
| IDFL | integral diode FET logic |
| IDT | interdigital transducer |
| IDTV | improved definition television |
| IEC | interexchange carrier *or* International Electrotechnical Commission |
| IEPA | independent electron pair approximation |
| IETS | inelastic electron tunnelling spectra (-oscopy) |

| | |
|---|---|
| IF | intermediate frequency |
| IFA | ionisation front accelerator |
| IFE | intelligent front end |
| IFM | instantaneous frequency measurement |
| IGBT | insulated gate bipolar transistor |
| IGCC | integrated gasification combined cycle |
| IGES | Initial Graphics Exchange Specification |
| IGFET | insulated gate field effect transistor |
| IGT | insulated gate transistor |
| IHEP | Institute of High Energy Physics |
| i.i.d. | independently identically distributed |
| IIR | infinite impulse response |
| IKBS | intelligent knowledge based system |
| IKO | Institute v. Kernph Ouder Amsterdam |
| ILS | instrument landing system |
| ILW | intermediate level (radioactive) waste |
| IMD | intermodulation distortion |
| IMPATT | impact avalanche transit time |
| IN | intelligent network |
| INDO | incomplete neglect of differential overlap |
| INDOR | internuclear double resonance |
| INEPT | insensitive nuclei enhanced by polarisation transfer |
| ING | intense neutron generator |
| INO | iterative natural orbital |
| INS | inertial navigation system *or* Information Network System |
| INTELSAT | International Telecommunications Satellite Consortium |
| INTOR | International Tokamak Reactor |
| IOC$\omega$ | inclusion of the overlap charges in the omega |
| IPSE | integrated programming support environment *or* integrated project support environment |
| IPSS | international packet switching system |
| IR | infrared |
| IRBIC | infrared beam induced current(s) (contrast) |
| IREB | intense relativistic electron beam |
| IRED | infrared emitting diode |
| IRS | information retrieval system |
| IS | information system |
| ISABELLE | intersecting storage and acceleration |
| ISDN | integrated services digital network |
| ISDSN | integrated services digital satellite network |
| ISFET | ion-sensitive field effect transistor |
| ISI | intersymbol interference |
| ISL | integrated Schottky logic *or* inter-satellite links |
| ISO | International Standards Organization |
| ISR | intersecting storage ring |
| ISS | ion scattering spectroscopy |
| ISX | impurity study experiment |
| IT | information technology |
| ITC | ionic themocurrents |
| ITEP | Institute of Theoretical and Experimental Physics (USSR) |
| ITO | indium tin oxide |
| ITR | Ignition Test Reactor |
| ITU | International Telecommunication Union |
| IU | Indiana University (USA) |
| IVO | improved virtual orbitals |
| IVP | initial value problem |
| $J^{\pi}$ | spin/parity (nuclear levels) |
| JAERI | Japan Atomic Energy Research Institute |
| JCL | job control language |
| JET | Joint European Torus |
| JFET | junction field effect transistor |
| JINR | Joint Institute for Nuclear Research (USSR) |
| JIT | just in time |
| JT-60 | Japanese Tokamak-60 |
| JTIDS | Joint Tactical Information Distribution System |
| KBS | knowledge based system |
| KdV | Korteweg-de Vries |
| KEK | Japan National Laboratory for High Energy Physics |
| KKR | Korringa-Kohn-Rostoker |
| LAMPF | Los Alamos Meson Physics Facility |
| LAN | local area network |
| LB | Langmuir-Blodgett |
| LBIC | light beam induced current(s) |
| LBLOCA | large break LOCA |
| LC | inductance-capacitance |
| LCA | logic cell array |
| LCAO | linear combination of atomic orbitals |
| LCBO | linear combinations of (semi-localised) band orbitals |
| LCC | leadless chip carrier |
| LCCC | leadless ceramic chip carrier |
| LCD | liquid crystal display/device |
| LCP | Large Coil Program *or* least cost planning |
| LCTF | Large Coil Test Facility |
| LD | laser diode |
| LDA | laser Doppler anemometry (-meter) |
| LDD | lightly doped drain |
| LDPE | low density polyethylene |
| LDV | laser Doppler velocimetry (-meter) |
| LEAR | Low Energy Antiproton Ring |
| LEC | liquid encapsulated Czochralski *or* local exchange carrier |
| LED | light emitting diode |
| LEED | low energy electron diffraction |
| LEFD | Large Experimental Fusion Device |
| LEMP | lightning electromagnetic pulse |
| LEO | low-Earth-orbit |
| LEP | Large Electron Positron (CERN) |
| LET | linear energy transfer |
| LEU | low enrichment uranium (10% $U^{235}$) |
| LEU/Th | low enrichment U/Th fuel |
| LF | low frequency |
| LHPG | laser heated pedestal growth |
| LHRH | lower hybrid resonance heating |
| LIF | laser induced fluorescence |
| LIFO | last in, first out |
| LIM | linear induction motor |

| | |
|---|---|
| LIME | laser induced magnetically enhanced |
| LINAC | linear accelerator |
| LLTR | Large Leak Test Rig |
| LLW | low level (radioactive) waste |
| LMC | Large Magellanic Cloud |
| LME | liquid metal embrittlement |
| LMFBR | liquid metal fast breeder reactor |
| LMIS | liquid metal ion source |
| LMR | liquid metal reactor |
| LMS | least mean square |
| LMTO | linear combination of muffin tin orbitals |
| LNA | low noise amplifier |
| LNG | liquified natural gas |
| LO | local oscillator *or* longitudinal optical |
| LOCA | loss of coolant accident |
| LOCE | loss of coolant experiment |
| LOCOS | local oxidation of silicon |
| LOF | loss of flow |
| LOFT | Loss of Flow Test Facility |
| LOFW | loss of feed water |
| LONA | low noise amplifier |
| LOOSP | loss of onsite power |
| LOS | line of sight |
| LP | linear programming |
| LPC | linear predictive coding |
| LPCS | low pressure core spray |
| LPCVD | low pressure CVD |
| LPE | liquid phase epitaxy |
| LPFL | low pinchoff-voltage FET logic |
| LPI | low probability of intercept |
| LQG | linear quadratic Gaussian |
| LRO | long-range order |
| LSA | least squares approximation *or* limited space charge accumulation |
| LSD | local spin density *or* loop shut-down |
| LSI | large-scale integration |
| LSPB | Large Scale Prototype Breeder |
| LSSD | level sensitive scan design |
| LSTF | Large Scale Test Facility |
| LTE | local thermodynamic equilibrium |
| LTR | loop transfer recovery |
| LUMO | lowest unoccupied molecular orbitals |
| LV | low voltage |
| LWBR | light water breeder reactor |
| LWHCR | light water high convertor reactor |
| LWR | light water reactor |
| M1,M2 | magnetic dipole, quadrupole |
| MAC | multiplexed analogue components |
| MAG | metal arc gas |
| MAGFET | magnetic field sensitive FET |
| MAGLEV | magnetic levitation |
| MAN | metropolitan area network |
| MAP | Manufacturing Automation Protocol |
| MARS | Mirror Advanced Reactor Study |
| MAS | magic angle spinning |
| MATE | modular automatic test equipment |
| MBBA | 4-methoxybenzylidene-4'n-butylaniline |
| MBE | molecular beam epitaxy |
| MBPT | many body perturbation theory |
| MCCB | moulded-case circuit breakers |
| MCCI | molten core-concrete interaction |
| MCD | magnetic circular dichroism |
| MCFC | molten carbonate fuel cell |
| MCFR | magnetic confinement fusion reactor |
| MCM | multichip module |
| MCP | microchannel plate |
| MCSCF | multiconfiguration SCF |
| MCVD | modified chemical vapour deposition |
| MCX$\alpha$ | multiconfiguration X$\alpha$ |
| MEC | molecular electron correlation(s) |
| MEG | magnetoencephalography (-gram) |
| MESFET | metal-semiconductor FET |
| MEU | Medium Enrichment Uranium (20% $U^{235}$) |
| MEU/Th | Medium Enrichment U/Th fuel |
| MF | medium frequency |
| MFP | mean free path |
| MFR | mirror fusion reactor |
| MFSK | multiple frequency shift keying |
| MFTF | Mirror Fusion Test Facility |
| MHD | magnetohydrodynamics |
| MHS | message handling system |
| MHTGR | modular HTGR |
| MIC | microwave integrated circuit |
| MID | magnetically insulated diode |
| MIDI | musical instrument digital interface |
| MIDP | microwave induced delayed phosphorescence |
| MIG | metal inert gas |
| MIL-STD | Military Standard |
| MIM | metal-insulator-metal |
| MIMD | multiple input (instruction), multiple data |
| MIMIC | millimetre-wave monolithic integrated circuit |
| MIMO | multiple input, multiple output |
| MIN | multiprocessor interconnection network |
| MIND | mass impregnated non-draining |
| MINDO | modified incomplete NDO |
| MIPS | million instructions per second |
| MIS | management information system *or* metal-insulator-semiconductor |
| MISFET | metal-insulator-semiconductor FET |
| MISO | multiple input, single output |
| MIT | Massachusetts Institute of Technology (USA) |
| MITATT | mixed tunnelling avalanche transit time |
| ML | machine language |
| MLB | multilayer board |
| MLC | multilayer ceramic |
| MLE | maximum likelihood estimation |
| MLP | multiple layer perceptron |
| MLS | microwave landing system |
| MLTF | multilayer thick film |
| MLW | medium level (radioactive) waste |
| MM | millimetre |
| MMF | magnetomotive force |
| MMI | man-machine interface |
| MMIC | monolithic microwave integrated circuit |
| MMU | memory management units |
| MNDO | modified neglect of differential overlap |
| MNOS | metal-nitride-oxide-semiconductor |
| MO | molecular orbitals |

| | |
|---|---|
| MOCVD | metal-organic chemical vapour deposition |
| MODFET | modulation doped FET |
| MODPOT | modulator potential |
| MOMBE | metal-organic MBE |
| MOS | metal-oxide-semiconductor |
| MOSFET | metal-oxide-semiconductor FET |
| MOST | metal-oxide-semiconductor transistor |
| MOV | metal oxide varistor |
| MOVPE | metal-organic vapour phase epitaxy |
| MOX | mixed oxide fuel |
| MPH | moving plasmoid heater |
| MPSK | multiple phase shift keying |
| MPU | microprocessing unit |
| MQORC | modified quadrature overlapped raised cosine |
| MQW | multiple quantum well |
| MRAC | model reference adaptive control |
| MRD | multiple-reference double excitation |
| MRI | magnetic resonance imaging |
| MRINDO | modified Rydberg INDO |
| MRP | manufacturing resources planning *or* materials requirements planning |
| MRS | monitored retrievable storage (radioactive waste) |
| MS | management science |
| MSE | mean square error |
| MSI | medium scale integration |
| MSK | minimum shift keying |
| MSR | molten salt reactor |
| MSSW | magnetostatic surface wave |
| MSU | Michigan State University |
| MSW | magnetostatic waves |
| MSX$\alpha$ | multiple scattering X$\alpha$ |
| MT | machine translation |
| MTBF | mean time between failures |
| MTF | modulation transfer function |
| MTI | moving target indicator |
| MTL | merged-transistor logic |
| MTTF | mean time to failure |
| MTX$\alpha$ | muffin-tin X$\alpha$ |
| $\mu$CF | muon catalysed fusion |
| $\mu$SR | muon spin rotation (resonance) |
| MUF | material unaccounted for *or* maximum usable frequency |
| MUSE | multiple sub-Nyquist sampling encoding |
| MUSIC | multiple signal characterisation |
| MV | medium voltage |
| MWPC | multiwire proportional chamber |
| NAA | neutron activation analysis |
| NAL | National Accelerator Laboratory |
| NAND | NOT-AND (logic) |
| NAPLPS | North American Presentation Level Protocol Syntax |
| NASA | National Aeronautics and Space Administration |
| NATO | North Atlantic Treaty Organisation |
| NBETF | Neutral Beam Engineering Test Facility |
| NBFM | narrowband frequency modulation |
| NBI | neutral beam injection |
| NBPS | neutral beam power systems |
| NC | numerical control |
| NCAR | National Center for Atmospheric Research (USA) |
| NCBR | nitrine cooled breeder reactor |
| NCMET | non-closed shell many electron theory |
| NDDO | neglect of diatomic differential overlap |
| NDE | nondestructive evaluation |
| NDO | neglect of differential overlap |
| NDR | negative differential resistance |
| NDRO | nondestructive readout |
| NDT | nondestructive testing |
| NEA | negative electron affinity |
| NET | Next European Tokamak |
| NEXAFS | near-edge X-ray absorption fine structure |
| NGS | nuclear generating station |
| NHS | National Health Service (UK) |
| NIC | negative impedance convertor |
| NICAM | near-instantaneously companded audio multiplex |
| NIST | National Institute of Standards and Technology (USA) |
| NLP | natural language processing |
| NMOS | n-channel MOS |
| NMR | nuclear magnetic resonance |
| NMR-ON | NMR on oriented nuclei |
| NNI | network node interface |
| NNNDO | neglect of non-neighbour differential overlap |
| NOAA | National Oceanic and Atmospheric Administration (USA) |
| NOR | NOT-OR (logic) |
| NOVA | nonoverlapping super-self-aligned |
| NP | nondeterministic polynomial |
| NPL | National Physical Laboratory (UK) |
| NPP | nuclear power plant |
| NQR | nuclear quadrupole resonance |
| NRC | Nuclear Regulatory Commission (USA) |
| NRD | nonradiative dielectric |
| NRM | natural remanent magnetisation |
| NRZ | non-return to zero |
| NRZI | non-return to zero inverted |
| NSLS | National Synchrotron Light Source |
| NSRR | Nuclear Safety Research Reactor |
| NSSS | nuclear steam supply system |
| NTD | neutron transmutation doping |
| NTL | nonthreshold logic |
| NTSC | National TV Standards Committee |
| NVRAM | nonvolatile RAM |
| NWPA | Nuclear Waste Policy Act (USA) |
| OA | office automation |
| OAM | operations, administration and maintenance |
| OBIC | optical beam induced current(s) |
| OCR | optical character recognition |
| OCRWM | Office of Civilian Radioactive Waste Management (USA) |
| ODA | office document architecture |
| ODE | ordinary differential equation |
| ODMR | optical detection of magnetic resonance |
| OEIC | optoelectronic integrated circuit |

| | |
|---|---|
| OEM | original equipment manufacture(r) |
| OER | oxygen enhancement ratio |
| OH | ohmic heating |
| OHTE | Ohmically Heated Toroidal Experiment |
| OMCVD | organometallic CVD |
| OMVPE | organometallic vapour phase epitaxy |
| ONA | open network architecture |
| ONO | oxide-nitride-oxide |
| OOP | object-oriented programming |
| OPAC | online public access catalogue |
| OPHF | orbital polarised Hartree-Fock |
| OPW | orthogonal plane wave |
| OQPSK | offset quadrature phase shift keying |
| OR | operations research |
| ORELA | Oak Ridge Electron Linear Accelerator (USA) |
| ORNL | Oak Ridge National Laboratory (USA) |
| OS | operating system |
| OSI | open systems interconnection |
| OTA | operational transconductance amplifier |
| OTDR | optical time domain reflectometry |
| OTEC | ocean thermal energy conversion |
| OTF | optical transfer function |
| OTH | over the horizon |
| OTS | Orbital Test Satellite |
| OTSG | once-through steam generator |
| OZI | Okubo-Zweig-Lizuha (quark model) |
| PAA | paraazoxyanisole |
| PABX | private automatic branch exchange |
| PAC | perturbed angular correlation |
| PACS | picture archiving and communication systems |
| PAHR | post accident heat removal |
| PAL | phase alternate line *or* programmable array logic |
| PAM | programmable active memory *or* pulse amplitude modulation |
| PAP | paraazoxyphenetole |
| PARS | private advanced radio service |
| PBF | power bursts facility |
| PBFA | Particle Beam Fusion Accelerator |
| PBH | planar buried heterostructure |
| PBL | planetary boundary layer |
| PBR | pebble bed reactor |
| PBT | permeable base transistor |
| PBX | private branch exchange |
| PC | personal computer *or* printed circuit *or* programmable controller |
| PCAC | partially conserved axial currents |
| PCB | polychlorinated biphenyl *or* printed circuit board |
| PCES | phase change energy storage |
| PCI | pellet-cladding interaction |
| PCILO | perturbative configuration interaction using localised orbitals |
| PCILOCC | PCILO for crystal calculation |
| PCM | phase change material *or* pulse code modulation |
| PCN | personal communications network |
| PCRV | prestressed concrete reactor vessel |
| PCV | primary containment vessel |
| PCX | plasma confinement experiment |
| PD | partial discharge |
| PDE | partial differential equation |
| PDF | probability density (distribution) function |
| PDX | Poloidal Divertor Experiment |
| PE | phase encoded |
| PEC | photoelectrochemical cell |
| PEEK | polyaryletheretherketone *or* polyetheretherketone |
| PEEL | programmable electrically erasable logic |
| PEM | photoelectromagnetic |
| PEP | Positron Electron Photon (Stanford, USA) |
| PES | photoelectron spectra (-oscopy) |
| PET | polyethylene terephthalate *or* positron emission tomography |
| PETRA | Positron Electron Tandem Ringbeschleuniger Anlage |
| PF | poloidal field *or* power factor |
| PFBC | pressurised fluidised bed combustion |
| PFM | pulse frequency modulation |
| PFR | Prototype Fast Reactor |
| PGA | pin grid array |
| PHWR | pressurised heavy water reactor |
| PI,PD | proportional+integral+differential (derivative) |
| PID | proportional+integral+differential (derivative) |
| PIPECO | photoion photoelectron coincidence |
| PIUS | process inherent ultimately safe |
| PIXE | photon induced X-ray emission |
| PLA | phase locked array *or* programmable logic array |
| PLBR | Prototype Large Breeder Reactor |
| PLC | programmable logic control |
| PLCC | plastic leadless chip carrier |
| PLD | programmable logic device |
| PLL | phase locked loop |
| PLT | Princeton Large Torus |
| PLZT | lead lanthanum zirconate titanate |
| PM | permanent magnet *or* phase modulation *or* pulse modulation |
| PMDR | phosphorescence microwave double resonance |
| PMMA | polymethylmethacrylate |
| PMOS | p-channel metal-oxide-semiconductor |
| PMR | proton magnetic resonance |
| PMS | pre-main-sequence |
| PN | planetary nebula(e) |
| PNDO | partial neglect of differential overlap |
| PNO-CI | pair natural orbital configuration interaction |
| PNS | Pulsed Neutron Source |
| POL | pair orthogonalised Lowdin |
| POPAE | protons on protons and electrons |
| POPOP | phenyl-oxazolyl-phenyl-oxazolyl-phenyl |
| PORV | power operated relief valve |
| POS | point of sale |
| POTS | plain old telephone service |
| PPB | parts per billion |
| PPDP/S | Pariser-Parr-Del Bene-Pople/Segal calculations |

| | |
|---|---|
| PPI | plan position indicator |
| PPM | parts per million *or* pulse position modulation |
| PPP | Pariser-Parr-Pople |
| PQFP | plastic quad-flat-pack |
| PRA | probabilistic risk assessment |
| PRAM | parallel RAM |
| PRDDO | partial retention of diatomic differential overlap |
| PREPP | Process Experimental Pilot Plant |
| PRF | pulse recurrence (repetition) frequency |
| PRIME | positive resist images by dry etching |
| PROM | Pockels readout optical modulator *or* programmable ROM |
| PS | proton synchrotron (CERN) |
| PSD | power shut-down *or* power spectral density |
| PSDN | packet switched data network |
| PSK | phase shift keying |
| PSS | packet switching service *or* Packet SwitchStream (UK) |
| PSTN | public switched telephone network |
| PSU | power supply unit |
| PTF | polymer thick film |
| PTFE | polytetrafluoroethylene |
| PTH | plated through hole |
| PTM | pulse time modulation |
| PTT | Post Telephone and Telegraph Administration |
| PV | photovoltaic |
| PVC | polyvinyl chloride |
| PVD | physical vapour deposition |
| PVDF | polyvinylidene fluoride |
| PVER | pattern visual evoked response |
| PWA | partial wave analysis |
| PWB | printed wiring board |
| PWBA | plane wave Born approximation |
| PWIA | plane wave impulse approximation |
| PWM | pulse width modulation |
| PWR | pressurised water reactor |
| PZT | lead zirconate titanate |
| QA | quality assurance |
| QAM | quadrature amplitude modulation |
| QASK | quadrature amplitude shift keying |
| QBO | quasi-biennial oscillation |
| QC | quality control |
| QCD | quantum chromodynamics |
| QDMBPT | quasi-degenerate MBPT |
| QED | quantum electrodynamics |
| QFP | quad-flat-pack |
| QFSK | quadrature frequency shift keying |
| QHD | quantum hadrodynamics |
| QMF | quadrature mirror filter |
| QORC | quadrature overlapped raised cosine |
| QOSRC | quadrature overlapped squared raised cosine |
| QPM | quark-parton model |
| QPO | quasi-periodic oscillation |
| QPR | quadrature partial response |
| QPRS | quadrature partial response signalling |
| QPSK | quaternary phase shift keying |
| QSO | quasi-stellar object (quasar) |
| QWITT | quantum well injection transit time |
| R & D | research and development |
| RACE | Research and Development in Advanced Communications Technologies in Europe |
| RAD | ribbon-against-drop |
| RAM | radar absorbing material *or* random access memory *or* reliability availability and maintainability |
| RBE | relative biological effectiveness |
| RBMK | light water cooled, graphite moderated reactor |
| RBS | Rutherford backscattering |
| RC | resistance-capacitance |
| RCCB | residual current circuit breaker |
| RCD | residual current device |
| RCIC | reactor core isolation cooling |
| RCS | radar cross-section *or* rapid cycling synchrotron *or* reactor coolant systems |
| RCTL | resistor-capacitor-transistor logic |
| RDBMS | relational DBMS |
| RDS | Radio Data Systems |
| RDSS | radio determination satellite service |
| REA | rod ejection accident |
| REELS | reflection electron energy loss spectra (-oscopy) |
| REMPI | resonance enhanced multiphoton ionisation |
| RF | radio frequency |
| RFI | radio frequency interference |
| RFPR | reversed field pinch reactor |
| RFX | Reversed Field (Pinch) Experiment |
| RG | renormalisation group |
| RGB | red green blue |
| RHEED | reflection high energy electron diffraction |
| RHET | resonant hot electron transistor |
| RHF | restricted Hartree-Fock |
| RIA | reactivity initiated accident |
| RIBE | reactive ion beam etching |
| RICH | ring imaging Cherenkov detector |
| RIE | reactive ion etching |
| RINDO | Rydberg incomplete NDO |
| RISC | reduced instruction set computer |
| RKKY | Rudermann-Kittel-Kasuya-Yosida |
| RLC | resistance-inductance-capacitance |
| RLS | recursive least squares |
| RMS | root-mean-square |
| RNA | ribonucleic acid |
| RNS | residue number system |
| ROM | read-only memory |
| RPA | random phase approximation |
| RPAE | random phase approximation with exchange |
| RPM | relaxation potential model *or* revolutions per minute |
| RPV | reactor pressure vessel *or* remote piloted vehicle |
| RS | Reed-Solomon |
| RTA | rapid thermal annealing |
| RTD | resonant tunnelling diode |

| | |
|---|---|
| RTG | radioisotope thermoelectric generators |
| RTL | resistor-transistor logic |
| RTP | rapid thermal processing |
| RTTY | radio teletypewriter *or* remote teletype terminal |
| RVB | resonating valence bond |
| S/H | sample and hold |
| S/N | signal-to-noise |
| SAA | Systems Application Architecture |
| SAG | self aligned gate |
| SAINT | self-aligned implantation for $N^+$-layer technology |
| SAM | scanning acoustic microscopy *or* scanning Auger microscopy *or* serial access memory |
| SAMO | simulated ab initio molecular orbitals |
| SAMOS | stacked gate avalanche injection metal-oxide-semiconductor |
| SAN | small area network |
| SANS | small-angle neutron scattering |
| SAR | synthetic aperture radar |
| SARSAT | search and rescue satellite aided tracking |
| SAW | surface acoustic waves |
| SAXS | small-angle X-ray scattering |
| SBH | strip buried heterostructure |
| SBLOCA | small break LOCA |
| SBS | stimulated Brillouin scattering |
| SC | switched capacitor |
| SCADA | supervisory control and data acquisition |
| SCARA | selective compliance assembly robot arm |
| SCC | stress corrosion cracking |
| SCF | self-consistent field |
| SCFL | source-coupled FET logic |
| SCH | separate confinement heterostructure |
| SCL | space charge limited |
| SCM | subcarrier multiplex(ing) |
| SCPC | single channel per carrier |
| SCR | silicon controlled rectifier |
| SCSI | Small Computer System Interface |
| SCTF | Slab Core Test Facility |
| SDFL | Schottky-diode FET logic |
| SDH | synchronous digital hierarchy |
| SDI | selective dissemination of information *or* Strategic Defense Initiative (USA) |
| SDLC | synchronous data link control |
| SDM | space division multiplexing |
| SDMA | space division multiple access |
| SEAM | scanning electron acoustic microscopy |
| SED | stochastic electrodynamics |
| SEED | self-electrooptic effect device |
| SEM | scanning electron microscopy |
| SEP | somatosensory evoked potential |
| SERS | surface enhanced Raman scattering |
| SETI | search for extraterrestrial intelligence |
| SEU | single event upset |
| SEXAFS | surface extended X-ray absorption fine structure |
| SFE | solar-flare effect |
| SFL | substrate-fed logic |
| SGEMP | system generated electromagnetic pulse |
| SGHWR | steam generating heavy water reactor |
| SGML | Standard Generalized Markup Language |
| SGMP | sol gel microsphere pelletisation |
| SHF | superhigh frequency |
| SHG | second harmonic generation |
| SHV | superhigh votage |
| SI | semi-insulating *or* Systeme Internationale |
| SICOS | sidewall base contact structure |
| SIL | single-in-line |
| SIMD | single instruction, multiple data |
| SIMOS | stacked-gate injection MOS |
| SIMOX | separation by implantation of oxygen |
| SIMS | secondary ion mass spectra (-oscopy) |
| SIN | Swiss Institute of Nuclear Research |
| SINDO | scaled incomplete NDO |
| SIPOS | semi-insulating polycrystalline silicon |
| SIS | semiconductor-insulator-semiconductor *or* superconductor-insulator-superconductor |
| SISAM | spectrometer with interference selective amplitude modulation |
| SISFET | semiconductor-insulator-semiconductor FET |
| SISO | single input, single output |
| SIT | static induction transistor |
| SLAC | Stanford Linear Accelerator |
| SLAM | scanning laser acoustic microscopy |
| SLC | Stanford Linear Collider |
| SLD | strict logical determinacy |
| SLIC | subscriber line interface circuit |
| SLSF | Sodium Loop Safety Facility |
| SMA | surface mount(ed) assembly |
| SMATV | satellite master antenna television |
| SMC | Small Magellanic Cloud *or* surface mount(ed) component |
| SMD | surface mount(ed) device |
| SMDS | switched multimegabit data service |
| SMES | superconductive magnetic energy storage |
| SMIF | standard mechanical interface |
| SMOBC | solder mask over bare copper |
| SMPS | switched mode power supply |
| SMQORC | staggered modified quadrature overlapped raised cosine |
| SMT | surface mount(ed) technology |
| SN | supernova(e) |
| SNA | Systems Network Architecture |
| SNM | special nuclear material |
| SNR | signal-to-noise ratio *or* supernova remnant |
| SNS | spallation neutron source *or* superconducting-normal-superconducting |
| SOA | safe operating area |
| SOG | spin-on-glass *or* strongly orthogonal geminal |
| SOI | silicon on insulator |
| SOIC | small outline integrated circuit |
| SONET | synchronous optical network |
| SOR | successive over-relaxation |

| | |
|---|---|
| SOR | synchrotron orbital radiation |
| SOS | silicon on sapphire |
| SOT | small outline transistor |
| SPA | separated pair approximation |
| SPARC | scaleable processor architecture *or* Standards Planning and Requirements Committee (of ANSI) |
| SPC | statistical process control *or* stored program control |
| SPCP | single parity check product (code) |
| SPE | solid phase epitaxy |
| SPEAR | Stanford Positron Electron Asymmetric Ring |
| SPECT | single photon emission computerised tomography |
| SPICE | Simulation Program with Integrated Circuit Emphasis |
| SPLEED | spin polarised low energy electron diffraction |
| SPS | Super Proton Synchrotron (CERN) |
| SQAM | superposed quadrature amplitude modulation |
| SQC | statistical quality control |
| SQL | Structured Query Language |
| SQPR | staggered quadrature partial response |
| SQPSK | staggered quadrature PSK |
| SQUID | superconducting quantum interference device |
| SQW | single quantum well |
| SRAM | static RAM |
| SREMP | source region electromagnetic pulse |
| SRMCASE | symmetry-restricted-multiconfiguration annihilation of single excitations |
| SRO | short-range order |
| SRS | stimulated Raman scattering |
| SRV | safety release valve |
| SS-TDMA | satellite switched TDMA |
| SS7 | Signalling System No.7 |
| SSB | single sideband |
| SSBW | surface skimming bulk wave |
| SSC | sudden storm commencement *or* Superconducting Super Collider |
| SSCR | spectrum shift controlled reactor |
| SSFL | Schottky-barrier coupled Schottky-barrier gate FET logic |
| SSI | small scale integration |
| SSMA | spread spectrum multiple access |
| SSNTD | solid-state nuclear track detector |
| SST | sea surface temperature *or* supersonic transport |
| STD | salinity-temperature-depth *or* subscriber trunk dialling |
| STEC | solar thermal energy conversion |
| STEM | scanning transmission electron microscopy |
| STI | scientific and technical information |
| STL | Schottky transistor logic |
| STM | scanning tunnelling microscopy *or* synchronous transfer mode |
| STO | Slater-type orbitals |
| STOL | short take-off and landing |
| STP | Slater-transfer Preuss |
| SURMAC | surface magnetic confinement |
| SUSY GUT | supersymmetric grand unified theory |
| SVC | static VAr compensator |
| SVD | singular value decomposition |
| SW | short wave |
| SWAMI | sidewall masked isolation |
| SWEPP | Stored Waste Examination Pilot Plant |
| SWR | sodium water reactor *or* standing wave ratio |
| SXAPS | soft X-ray appearance potential spectra (-oscopy) |
| TAB | tape automated bonding |
| TACS | Total Access Communications System |
| TASI | time assignment speech interpolation |
| TAT | transatlantic telephone cable |
| TBBA | terephthal-butylaniline |
| TBDF | transborder data flow |
| TCAS | traffic alert and collision avoidance system |
| TCE | temperature coefficient of expansion |
| TCM | trellis coded modulation |
| TCNE | tetracyanoethylene |
| TCNQ | tetracyanoquinodimethane |
| TCP/IP | transport control protocol/internet protocol |
| TCR | temperature coefficient of resistance |
| TCXO | temperature compensated crystal oscillator |
| TDDB | time dependent dielectric breakdown |
| TDF | Technology Demonstration Facility *or* transborder data flow |
| TDHF | time-dependent Hartree-Fock |
| TDM | time division multiplex(ing) |
| TDMA | time division multiple access |
| TDMF | time dependent mean field theory |
| TDPAC | time differential PAC |
| TDS | thermal desorption spectra (-oscopy) |
| TE | transverse electric |
| TEA | transversely excited atmosphere |
| TED | transferred electron device |
| TEGFET | two-dimensional electron gas FET |
| TEM | transmission electron microscopy *or* transverse electromagnetic |
| TEOS | tetraethylorthosilicate |
| TEXT | Texas Experimental Tokamak |
| TF | toroidal field |
| TFCX | Toroidal Fusion Core Experiment |
| TFEL | thin film electroluminescent |
| TFT | thin film transistor |
| TFTR | Tokamak Fusion Test Reactor |
| TGA | thermogravimetric analysis |
| TGFB | triglycine fluoroberyllate |
| TGS | triglycine sulphate |
| TGSe | triglycine selenate |
| THF | tremendously high frequency |
| THORP | Thermal Oxide Reprocessing Plant |
| THORS | Thermal-Hydraulic Out-of-Reactor Safety Facility |
| THTF | Thermal Hydraulic Test Facility |
| TIG | tungsten inert gas |
| TIL | two interdigitation level |
| TJS | transverse junction stripe |
| TLD | thermoluminescent dosimeter (-ry) |
| TM | transverse magnetic |
| TMC | test module coil |

| | |
|---|---|
| TMHR | tandem mirror hybrid reactor |
| TMI | Three Mile Island |
| TMMC | tetramethylammonium manganese chloride |
| TMR | tandem mirror reactor |
| TMTSF | tetramethyltetraselenafulvalene (-inium) |
| TMTTF | tetramethyltetrathiafulvalene (-inium) |
| TMX-U | Tandem Mirror Experiment-Upgrade |
| TNS | The Next Step |
| TOF | time-of-flight |
| TOP | Technical Office Protocol *or* transient overpower accident |
| TPAD | time differential perturbed angular distribution |
| TPC | time projection chamber |
| TPD | temperature programmed desorption |
| TPTF | Two Phase Flow Test Facility |
| TQM | total quality management |
| $TR^3$ | time resolved resonant Raman (spectra (-oscopy)) |
| TRAPATT | trapped plasma avalanche triggered transit |
| TREAT | Transient Reactor Test Facility |
| TRM | thermoremanent magnetisation |
| TRRR | time resolved resonant Raman (spectra (-oscopy)) |
| TRU | transuranic (waste) |
| TSC | thermally stimulated currents |
| TSD | thermally stimulated desorption |
| TSEE | thermally stimulated exo-electron emission |
| TSeF | tetraselenafulvalene (-inium) |
| TSeT | tetraselenatetracene |
| TSIC | thermally stimulated ionic currents |
| TSR | terminate and stay resident |
| TSTA | Tritium Systems Test Facility |
| TTF | tetrathiafulvalene (-inium) |
| TTL | transistor-transistor logic |
| TTMP | transit time magnetic pumping |
| TTT | temperature-time-transformation *or* tetrathiatetracene |
| TTY | teletype terminal |
| TUCA | transient undercooling accident |
| TUCOP | transient undercooled overpower accident |
| TV | television |
| TVRO | TV receive only |
| TW | travelling wave |
| TWA | travelling wave amplifier |
| TWT | travelling wave tube |
| UART | universal asynchronous receiver transmitter |
| UCHF | uncoupled Hartree-Fock |
| UCN | ultra cold neutrons |
| UHF | ultra high frequency *or* unrestricted Hartree-Fock |
| UHPS | underground hydroelectric pumped storage |
| UHV | ultra high voltage |
| UIMS | user interface management system |
| UJT | unijunction transistor |
| UKAEA | United Kingdom Atomic Energy Authority |
| ULA | uncommitted logic array |
| ULF | ultra low frequency |
| ULSI | ultra-large scale integration |
| UMD | unitised microwave devices |
| UPS | ultraviolet photoelectron spectra (-oscopy) *or* uninterruptible power supply |
| US | ultrasonic |
| USART | universal synchronous/asynchronous receiver transmitter |
| UUT | unit under test |
| UV | ultraviolet |
| VAD | vapour phase axial deposition |
| VAN | value added network |
| VANS | value added network services |
| VB | valence bond |
| VCCS | voltage controlled current source |
| VCO | voltage controlled oscillator |
| VCR | video cassette recorder |
| VCVS | voltage controlled voltage source |
| VCXO | voltage controlled crystal oscillator |
| VDM | vector dominance model *or* Vienna Development Methodology |
| VDMOS | vertical double diffused MOS |
| VDT | visual display terminal |
| VDU | visual display unit |
| VDW | van der Waals |
| VER | visual evoked response |
| VFD | vacuum fluorescent display |
| VFO | variable frequency oscillator |
| VGA | video graphics array |
| VHDL | VHSIC hardware description language |
| VHF | very high frequency |
| VHPIC | very high performance integrated circuit |
| VHSIC | very high speed integrated circuit |
| VHV | very high voltage |
| VIPER | verified processor for enhanced reliability |
| VJFET | vertical junction FET |
| VLBI | very long base line interferometry |
| VLF | very low frequency |
| VLIW | very long instruction word |
| VLSI | very large scale integration |
| VM | virtual machine |
| VMOS | vertical channel MOS |
| VOR | VHF omnidirectional range |
| VPE | vapour phase epitaxy |
| VRAM | video RAM |
| VRC | visual record computer |
| VS | virtual storage |
| VSAT | very small aperture terminals |
| VSB | vestigial sideband |
| VSEPR | valence shell electron pair repulsion |
| VSI | voltage source invertor |
| VSP | vertical seismic profiling |
| VSS | variable structure systems |
| VSWR | voltage standing wave ratio |
| VTOL | vertical take-off and landing |
| VTR | video tape recorder *or* voltage transformation ratio |

| | |
|---|---|
| VUV | vacuum ultraviolet |
| VVER | water moderated water cooled reactors |
| VVVF | variable voltage variable frequency |
| VXIbus | VMEbus extension for instrumentation |
| WAN | wide area network |
| WARC | World Administrative Radio Conference |
| WAXS | wide-angle X-ray scattering |
| WDF | wave digital filter |
| WDM | wavelength division multiplex(ing) |
| WECS | wind energy conversion system |
| WIMP | weakly interacting massive particle *or* windows, icons, mice, pull-down menus |
| WIP | work-in-progress |
| WIPP | Waste Isolation Pilot Plant |
| WKB | Wentzel-Kramers-Brillouin |
| WORM | write once, read many times |
| WP | word processing |
| WR | Wolf-Rayet |
| WSI | wafer scale integration |
| WWER | water moderated water cooled reactors |
| WYSIWYG | what you see is what you get |
| WZW | Wess-Zumino-Witten |
| XANES | X-ray absorption near edge structure |
| XLPE | cross-linked polyethylene |
| XOR | exclusive OR (logic) |
| XPD | cross-polarisation discrimination |
| XPS | X-ray photoelectron spectra |
| XRD | X-ray diffraction |
| XUV | X-ray-ultraviolet |
| YAG | yttrium aluminium garnet |
| YIG | yttrium iron garnet |
| YTO | YIG tuned oscillator |
| ZGS | zero gradient synchrotron |
| ZIF | zero insertion force |
| ZPPR | zero power plutonium reactor |
| ZTP | Z toroidal pinch |

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**erythema** *see biological effects of ultraviolet radiation*

**erythrocytes** *see blood*

**Esaki diodes** *see tunnel diodes*

**Esaki effect** *see tunnelling*

**ESCA** *see electron spectroscopy; spectrochemical analysis; X-ray photoelectron spectra*

**ESD** *see electrostatic discharge*

**ESPI** *see electronic speckle pattern interferometry*

**ESPRIT** *see research initiatives*

**ESR** *see paramagnetic resonance*

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**etalons** *see interferometers*

**etchants** *see etching*

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**LPE** *see liquid phase epitaxial growth*

**LSA** *see limited space charge accumulation*

**LSI** *see large scale integration*

**Ludwig-Soret effect** *see diffusion in solids*

**luminance** *see brightness*

**luminescence**
*see also cathodoluminescence; chemiluminescence; electroluminescence; fluorescence; fluorescent screens; luminescence of gases; luminescence of liquids and solutions; luminescence of solids; luminescent devices; phosphorescence; phosphors; photoluminescence; sonoluminescence; stimulated emission; superradiance; thermoluminescence*
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**SS-TDMA** *see time division multiple access*
**SSNTD** *see solid-state nuclear track detectors*
**stabilisation** *see stability*
**stabilisers** *see controllers*
**stability**
*see also flow instability; frequency stability; limit cycles; Lyapunov methods; mechanical stability; plasma instability*
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